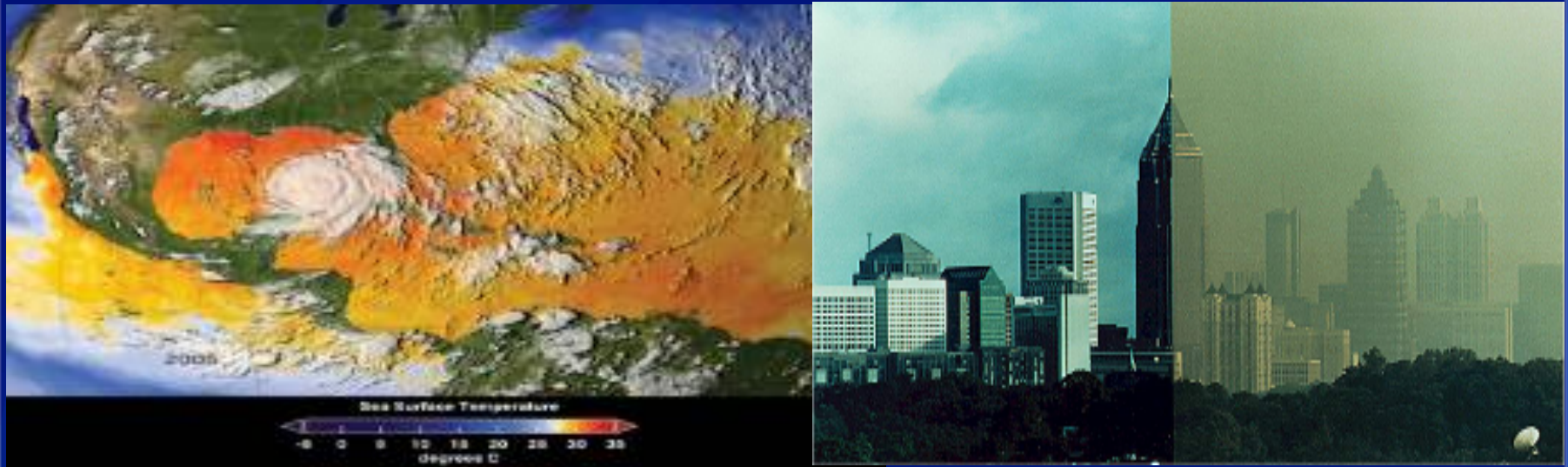


National Environmental Public Health Tracking Network



September 25th, 2013

Rish Vaidyanathan, MSEnvE

Center for Disease Control and Prevention

National Center for Environmental Health
Division of Environmental Hazards and Health Effects

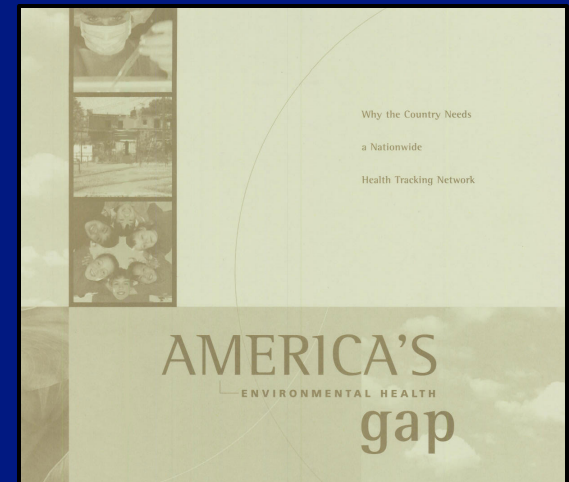


Presentation Objectives

- Overview of National Environmental Public Health Tracking Network (NEPHTN)
- The NEPHTN portal demo
 - Extreme heat event tool
 - Tool to estimate mortality benefits associated with lowering PM_{2.5} levels

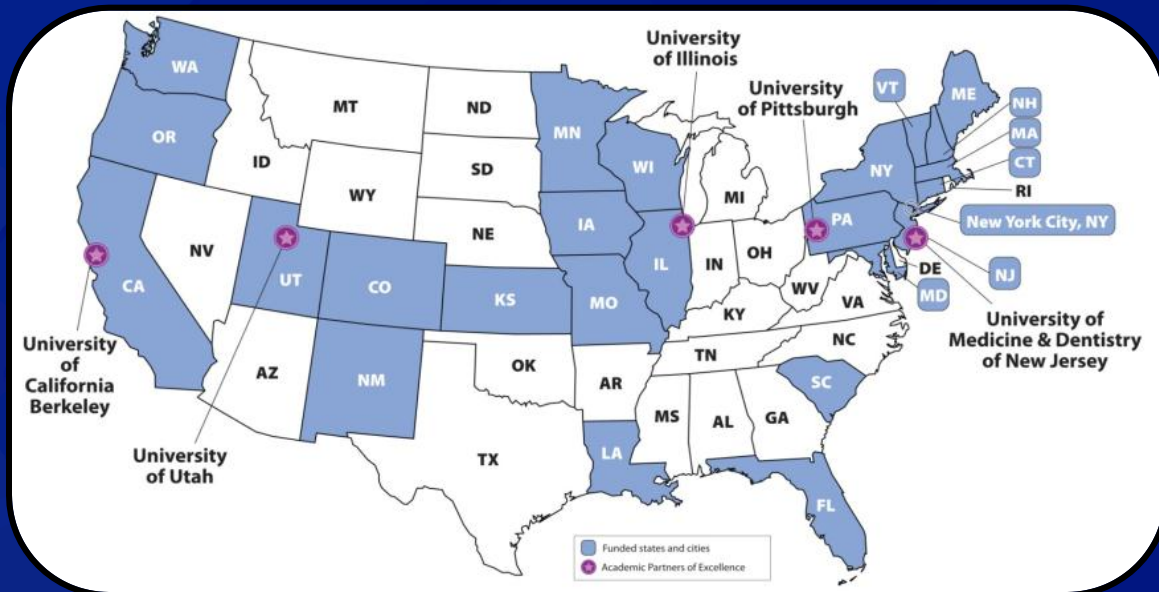
Environmental Public Health Tracking

- ❑ Pew Commission recommended a “Nationwide Health Tracking Network” for diseases and exposure
- ❑ First surveillance system to provide environmental and health data together in one place
- ❑ State and local tracking networks
 - Contribute data to national efforts
 - Address specific local level issues and needs



Tracking Partners

- Other Federal Agencies:
 - ASTHO, CSTE, EPA, NAACCR, NACCHO, NAHDO, NASA, NOAA, US Census Bureau, USGS
- Universities
- State and local health departments



What we do:

- ❑ Identify environmental health problem
- ❑ Evaluate utility of available data
- ❑ Generate information (measures) for public portal



- Completeness
- Complexity
- Confidentiality
- Consistency
- .
- .
- .
- Timeliness

Content

**Standards
and Network
Development**

**Program
Marketing
and Outreach**

How are the Data Used....

- ❑ Track and report environmental hazards and related health problems
- ❑ Monitor public health concerns affecting communities across the nation
- ❑ Observe where hazards and health problems are occurring and changing over time
- ❑ Make more informed policy decisions about communities that may be at risk
- ❑ Provide information to the public

Content on the Tracking Network

❑ Environmental/Exposure Data

- Outdoor Air
- Community Water
- Housing
- Climate Change
- Community Design



❑ Population Health data

- Population Characteristics
- Biomonitoring (Population Exposures)
- Children's Environmental Health
- Health Behaviors (Smoking)

Content on the Tracking Network

Health Effects data:

- Asthma
- Birth Defects
- Cancer
- Carbon Monoxide Poisoning
- Childhood Lead Poisoning
- Developmental Disabilities
- Heart Attacks
- Reproductive and Birth Outcomes



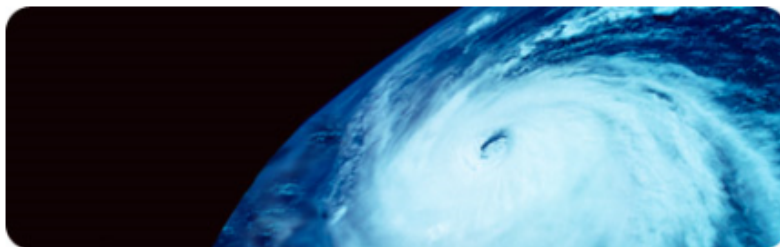
Climate Change Communication Tools

[Glossary A-Z](#)[CDC A-Z](#)[Tracking A-Z](#)[Home](#) > [Environments](#) > Climate Change

National Environmental Public Health Tracking

[Climate Change](#)[Tracking Climate Change](#)[Related Links](#)[Climate Change Indicators](#)

► Climate Change Communication Tools

[Search Climate Change Data](#)[Tracking Links](#)[Environments](#)[Health Effects](#)[Population Health](#)[Info by Location](#)

Quick Links

[Climate Change and Health](#)[Climate Change Monitoring in the U.S.](#)[Extreme Heat](#)

Climate Change Communication Tools

Copy and paste the code provided below into your Web page to display the following map or button:

- [Climate Change Toolkit](#) 
- [Online Training- Recognizing, Preventing, and Treating Heat - Related Illness](#)
- [CDC Extreme Heat Media Toolkit](#) [English](#) [Spanish](#)
- [Extreme Heat Toolkit](#)
- [Extreme Heat: A Prevention Guide to Promote Your Personal Health and Safety](#)

Tracking Climate Change Button







Copy this code to get this button

```
<a href="http://ephtracking.cdc.gov/showClimateChangeLanding.action" title="National
```

[Top of Page](#) 

Quick Links

 [Home](#) [About Tracking Program](#) [State & Local Tracking Portals](#) [Success Stories](#) [Indicators & Data](#) [Secure Portal](#) [Print page](#) [Bookmark and share](#) [CDC on Facebook](#) [CDC on Twitter](#)

Tracking Hot Topics

[Health Begins at Home Podcast](#)[Protecting Yourself and Your Family Against Poisonings Podcast](#)[Child Injury Prevention Video](#)[Unintentional Poisonings eCard](#)[Generator Danger eCard](#)[View our Tracking Success Stories to learn how Tracking is making a difference across the U.S.](#)

Resources

[Communication Tools](#)[Training](#)[Join our List-serv](#)[Document Library](#)[Quick Reports](#)[Technical Notes](#)



Centers for Disease Control and Prevention
National Environmental Public Health Tracking Network

Climate Change, Extreme Heat, and Health

A Tool Kit

Table of Contents

- 2
Goals and Guiding Principles
- 6
Environmental Public Health Before and After Tracking:
A Decade of Tracking
- 7
Environmental Public Health Tracking Network:
A Timeline
- 8
Key Messages and Talking Points
- 10
The Facts
- 13
Matte Article
- 15
Social Media Examples



Climate Change, Extreme Heat, and Health

Key Messages and Talking Points



The following key messages and talking points can help you and your spokespeople convey and emphasize the effect the Tracking Network can have.

How to Use

The following key messages and talking points can help you and your spokespeople convey and emphasize the impact that the Tracking Network can have on addressing the connections between climate change, extreme heat, and health. These messages and points may be used as they have been written, or they can be customized for your own purposes. We encourage you to use local, regional, or state-specific information whenever possible because it will further underscore the importance of this resource for your constituents. Each of the three key messages presented are supported by three to four additional talking points.

Key Messages

- The National Environmental Public Health Tracking Network is the best internet resource connecting environmental and health information. This resource can give (INSERT YOUR ORGANIZATION NAME) the power to help save lives and better protect the people we serve.
 - The Tracking Network is unique because it brings together data that would usually be collected and kept by many separate agencies and then standardizes it. This process allows us to see how our health and the environment are related.
 - The Tracking Network also offers tools to help make sense of these data—such as maps that show where environmental and health problems are happening—and then makes that valuable information available to people who need it, from scientists to decision-makers.
 - The Tracking Network is used by states, cities, universities, and professional organizations to help make critical decisions about where to target environmental public health resources that will protect people and save lives.
- The Tracking Network is helping us better understand how the environment is connected to climate change, extreme heat, and public health. Improving our understanding of these connections will help us better prepare to respond and save lives.
 - On average, extreme heat events are the most common cause of weather-related deaths in the U.S. Climate change is causing these events to occur more intensely with a longer duration. The Tracking Network hosts records of extreme temperatures, records of deaths that are related to heat, and social and environmental conditions that make people vulnerable to extreme heat.
 - The Tracking Network data are useful for providing information about who is most at-risk during heat waves. Because of this information, we can make informed decisions and plan how and where to best focus adaptation efforts to protect people from extreme heat.

next page

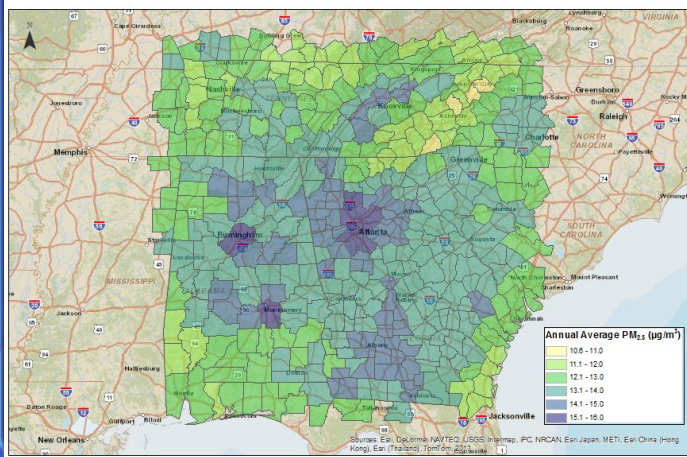
Collaboration with NASA/USRA

- Started in 2005 with a linkage project, HELIX- Atlanta
- Used Aerosol Optical Depth (AOD) to predict $PM_{2.5}$ concentrations in the Metropolitan Atlanta area



Remotely Sensed Annual Average $PM_{2.5}$ Estimates, 2007

Remote Sensing data are available
for the Southeastern United States only.




- Working with NASA/USRA and Emory University on enhancing spatial coverage of $PM_{2.5}$ in the Southeast
- AOD-based $PM_{2.5}$ estimates will be available on the Tracking Network

AOD-based PM_{2.5} on the Tracking Network

National Environmental Public Health Tracking
Air Quality
Tracking Air Quality
Monitor + Modeled Air Data
Health Impacts of Fine Particles in Air
Related Links
Air Quality Indicators
Outdoor Air Communication Tools
Search Air Quality Data

Tracking Links | **Environments** | **Health Effects** | **Population Health** | **Info by Location**




Quick Links
Air and Health
Air Monitoring in the US
Air Contaminants
Air Toxics **NEW**
Remote Sensing data **NEW**

Atmospheric Remote Sensing: Modeled PM_{2.5}

Atmospheric remote sensing can be used to measure levels of some air pollutants. Remote sensing data come from satellites. These data can be used in combination with other data to help us better understand when and where air pollution is happening. This is important because air pollution can cause health problems. Knowing more about when and where air pollution is happening can help public health officials and others do more to protect our health. Read more about the health problems related to air pollution [here](#).

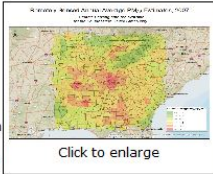
Compliance with air pollution standards usually is measured through the use of EPA's [Air Quality System](#) monitors. These monitors are on the ground and are placed around the country, mainly in large cities. Data from these monitoring stations are considered the "gold standard" for determining outdoor air pollution. However, this information is limited because the monitoring stations are usually near big cities and may take air samples only every three days or during periods when air pollution is very high. Read more about air monitoring [here](#). Using remote sensing data from satellites can help fill in the gaps that exist from air monitors on the ground.

Although atmospheric remote sensing data can help estimate air pollution levels, these data have limitations especially if used on their own. Satellite data are not always available. For example, it is nearly impossible to collect satellite data on a cloudy day. Clouds can interfere with the satellite's ability to collect data which can cause a gap in the information that comes from them. This is one reason why atmospheric remote sensing data should be used in addition to monitoring and modeled air data.



The National Aeronautics and Space Administration (NASA) provides atmospheric sensing data from their satellites for this project. Scientists from CDC, NASA, and Emory University are working together to determine how these data can be used with other air pollution monitoring data to measure fine particulate matter in outdoor air. Fine particulate matter is also called PM_{2.5}. Read more about PM_{2.5} [here](#).

The Tracking Network is now providing estimates of annual average PM_{2.5} concentrations using remote sensing data. Currently, data are available only for Alabama, Georgia, and parts of South Carolina, Tennessee, North Carolina, Florida, and Virginia.



Tracking Success Stories
Colorado
Florida
Maine
Maryland
Massachusetts
New York
Washington

Home
About Tracking Program
State & Local Tracking Portals
Success Stories
Indicators & Data
Secure Portal
Print page
Bookmark and share
CDC on Facebook
CDC on Twitter

Tracking Hot Topics
Download the Extreme Heat: Prevent Heat-Related Illness Widget
Tips for Preventing Heat-Related Illness
Stay Healthy and Safe in Hot Weather PSA
Recognizing, Preventing, and Treating Heat-Related Illness Online Training
View our Tracking Success Stories to learn how Tracking is making a difference across the U.S.

Resources
Communication Tools
Training
Join our List-serv
Document Library
Quick Reports
Technical Notes

Contact Us:
Centers for Disease Control and Prevention
1600 Clifton Rd
Atlanta, GA 30333
800-CDC-INFO
(800-232-4636)
TTY: (888) 232-6348
New Hours of Operation
8am-8pm ET/Monday-
Saturday

‘Clear communication’ information about PM_{2.5}, remote sensing, monitored and modeled sources of PM_{2.5} data

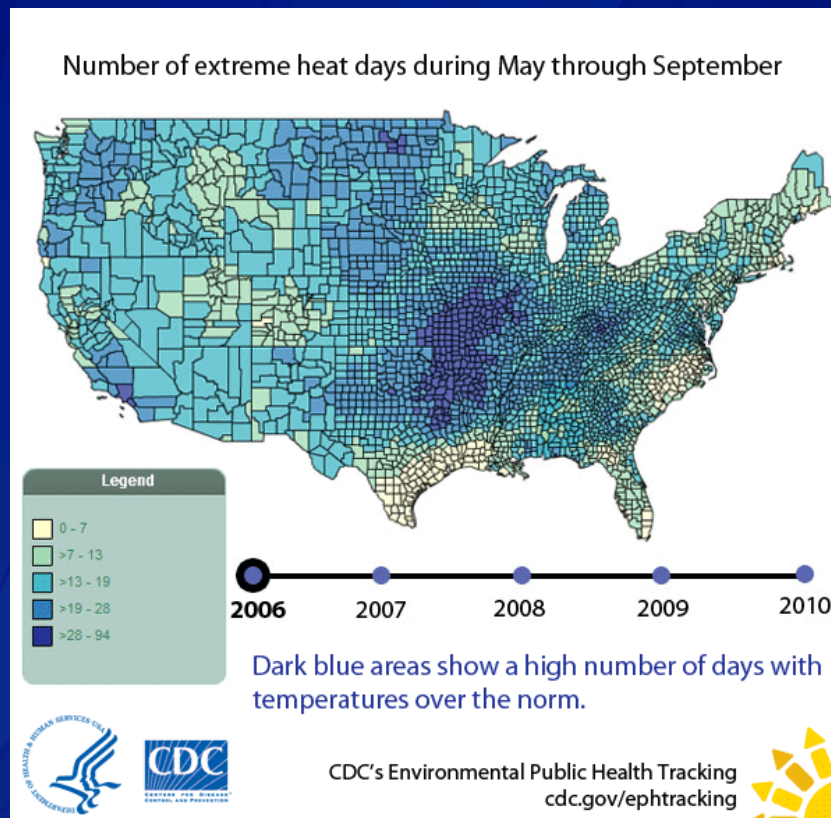
Users can download 2001-2007 AOD-based PM_{2.5} data for the southeast U.S. at county-level

<http://ephtracking.cdc.gov/showAirRemoteSensing.action>

Collaboration with NASA/USRA

Indicators of Extreme Heat Surveillance

- Heat event identification tool
- Heat stress hospitalizations and mortality



Future work includes:

- Excess deaths due to extreme heat events
- Measures of precipitation and drought

Mentorship

- ❑ Peer-to-Peer Fellowship Program
 - Sponsor five unfunded states, counties, or cities to build capacity for environmental public health tracking
- ❑ Informatics fellowship



Portal Demo

<http://ephtracking.cdc.gov>

For more information please contact Centers for Disease Control and Prevention

1600 Clifton Road NE, Atlanta, GA 30333

Telephone: 1-800-CDC-INFO (232-4636)/TTY: 1-888-232-6348

Visit: www.cdc.gov | Contact CDC at: 1-800-CDC-INFO or www.cdc.gov/info

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.